

Work Order ID 52666

October 6, 2009 10:12:40 AM



Page 1

Item ID: D3488042

Revision ID: B

Item Name: Blade Fitting Assembly, RH

Start Date: 10/06/09 Start Qty: 20.00

Required Date: 10/14/09 Req'd Qty: 20.00

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run Start

Stop

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr

Revision Nbr

D3488

Rev B

100



Doosan

Doosan Lathe

DOOSAN LATHE

Memo

1-Turn as per Dwg DSK 101 & Folio FA627: 12-Deburr

0.00

0.00

09.10.14

21

110



QC

Quality Control

QC2- Inspect parts off machine FA1/FA1B

Memo

0.00

0.00

09.10.15

21

120



HAAS I

HAAS CNC vertical machine #1

HAAS CNC VERTICAL MACHINING #1

Memo

1-Machine as per Folio FA627 & Dwg D3488: 12-Deburr

0.00

0.00

mmv

09/10/25

21

Q

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 52666

October 6, 2009 10:12:41 AM



Page 2

Item ID: D3488-042

Accept



Setup Start



Revision ID: B

Stop



Item Name: Blade Fitting Assembly, RH

Start Date: 10/06/09 Start Qty: 20.00



Cust Item ID:

Required Date: 10/14/09 Req'd Qty: 20.00



Customer:

Reference:

Run Start



Approvals: Process Plan:

Date:

Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

130

QC2- Inspect parts off machine FAI/FAIB

0.00



QC

Memo

0.00

Quality Control

mmf
09/10/26

140

QC8- Inspect parts - second check

0.00



QC

Memo

0.00

Quality Control

mmf
*09/10/25**21* *0*

150

Chemical Conversion Coat per QSI005 4.1

0.00



HandFinish

Memo

0.00

Hand Finishing

mmf
*09/10/26**(y21)* *0*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 52666

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Item ID: D3488-042

Accept



Setup Start



Revision ID: B

Stop



Item Name: Blade Fitting Assembly, RH

Start Date: 10/06/09 Start Qty: 20.00



Cust Item ID:

Required Date: 10/14/09 Req'd Qty: 20.00



Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

160

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00



1112260

Powdercoat

Memo

0.00

Powder Coating

START TIME:

7:15AM

OVEN TEMPERATURE:

7:45AM FINISH TIME:

320F

7 11 09/10/27

(24)

Ø

170

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

BR 09-10-27

(21)

180

HandFinishing

0.00



HandFinish

Memo

0.00

Hand Finishing

Install Inserts as per Dwg D3488

BR 09-10-27

(21)

Work Order ID 52666

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Page 4

Item ID: D3488-042

Accept

Revision ID: B

Item Name: Blade Fitting Assembly, RH

Start Date: 10/06/09 Start Qty: 20.00

Required Date: 10/14/09 Req'd Qty: 20.00

Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run Start

QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

190

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

200

Identify as per dwg & Stock Location:

0.00



Packaging

Memo

0.00

Packaging

210

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control



Cust Item ID:

Customer:



2) Set 10/27

(21) /
10/27

FP-8

BR 09-10-27

(21)

09/10/29 HJ
MF 09-10-28.

Picklist Print

October 6, 2009 10:12:39 AM

Page 1

Work Order ID: 52666

Parent Item: D3488-042RevB

Parent Item Name: Blade Fitting Assembly, RH

Comments:

Start Date: 10/06/09

Required Date: 10/14/09

Start Qty: 20.00

Required Qty: 20.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
ALS7-1032-225		Purchased	No				Each	877.0000	80.0000			



INSERT

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		

Main Warehouse

ST	110768	877
100895		21
100896		102
102018		102
110118		52
111529		300
111581		300

84 BR 02-10-07

D6103-003RevB Manufactured No

Each 30.0000 20.0000



Round Billet, Aluminum

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		

Main Warehouse

MAT		30
33275		2
36236		4
42281		1
47477		13
50371		10

09.12.14

12
8

111 5

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial. Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD		Work Order: <i>52665</i>
Description: Blade Fitting, RH / Turning Detail for D3488-1/-2		Part Number: D3488-2
Inspection Dwg: D3488 / DSK101 Rev: B / D		Page 1 of 2

FIRST ARTICLE INSPECTION CHECKLIST

☒ **First Article**

 ☐ **Prototype**

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Lathe Section						
Ø2.150	+/-0.005	<i>2.152</i>	<i>✓</i>			
Ø2.780	+/-0.005	<i>2.781</i>	<i>✓</i>			
Ø3.125	+/-0.010	<i>3.125</i>	<i>✓</i>			
Ø3.346	+/-0.010	<i>3.347</i>	<i>✓</i>			
0.125 x 45°	+/-0.010 x +/-0.1°	<i>.125 x 45</i>	<i>✓</i>			
8.000	+0.030/-0.000	<i>8.017</i>	<i>✓</i>			
9.250	+/-0.010	<i>9.250</i>	<i>✓</i>			
0.188	+/-0.010	<i>.188</i>	<i>✓</i>			
R0.032	+/-0.010	<i>R.032</i>	<i>✓</i>			
R0.062	+/-0.010	<i>R.062</i>	<i>✓</i>			
Ø0.297	+0.005/-0.001	<i>.300</i>	<i>✓</i>			
Ø0.430	+/-0.010	<i>.431</i>	<i>✓</i>			
0.100	+/-0.010	<i>.100</i>	<i>✓</i>			
0.125	+/-0.010	<i>.128</i>	<i>✓</i>			
2.620	+/-0.010	<i>2.620</i>	<i>✓</i>			
3.500	+/-0.010	<i>3.50</i>	<i>✓</i>			
1.005	+/-0.010	<i>1.005</i>	<i>✓</i>			
Ø0.484	+0.005/-0.001	<i>.484</i>	<i>✓</i>			
1.180	+/-0.010	<i>1.180</i>	<i>✓</i>			
3.150	+/-0.010	<i>3.150</i>	<i>✓</i>			
3.070	+/-0.010	<i>3.070</i>	<i>✓</i>			
R0.063	+/-0.010	<i>R.063</i>	<i>✓</i>			

DART AEROSPACE LTD		Work Order: 52666
Description: Blade Fitting, RH / Turning Detail for D3488-1/-2		Part Number: D3488-2
Inspection Dwg: D3488 / DSK101 Rev: B / D		Page 2 of 2

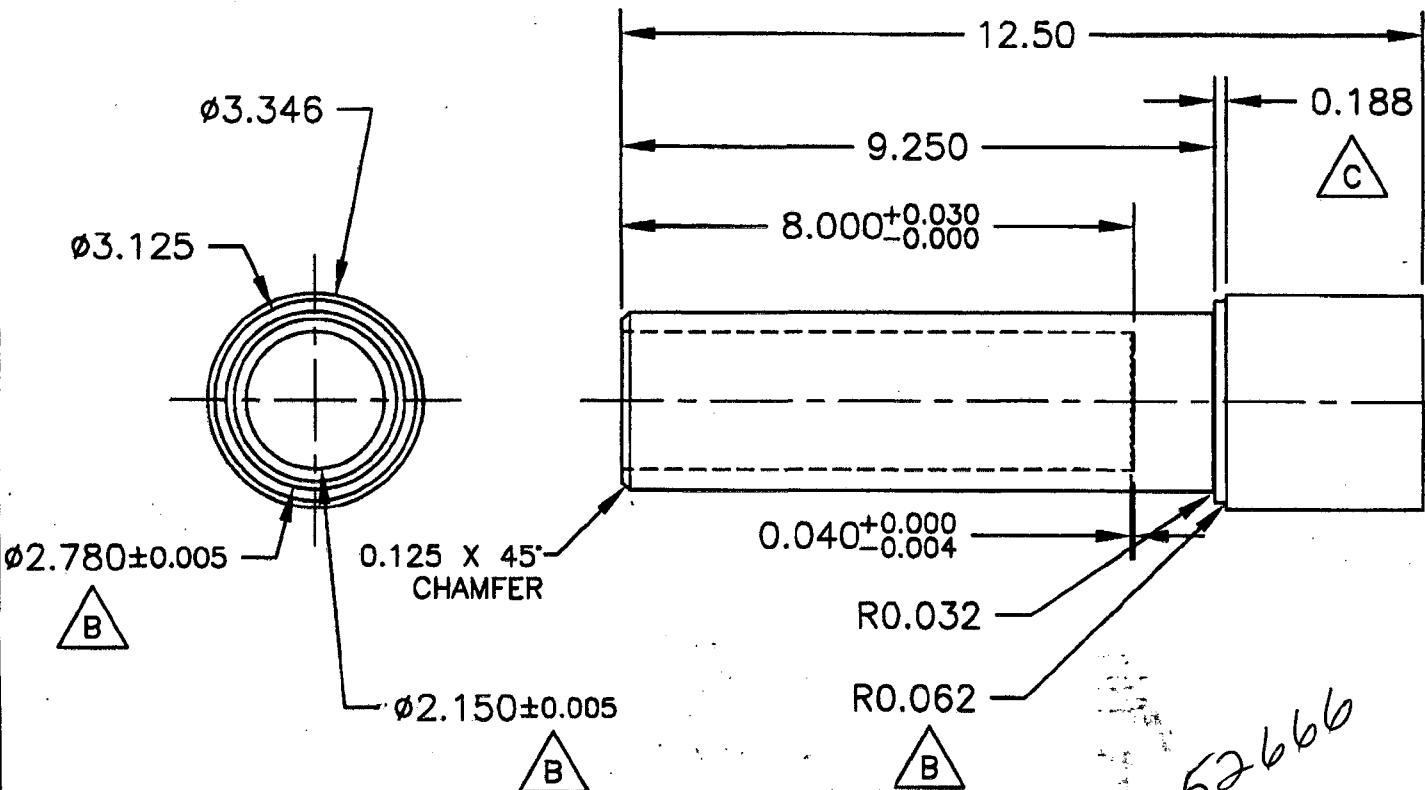
Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Milling Section						
Ø0.508	+0.006/-0.001	Ø.509	✓			
0.750	+/-0.010	.749	✓			
1.500	+/-0.010	1.499	✓			
11.18	+/-0.030	11.18	✓			
R0.062	+/-0.010	R.063	✓			
0.125	+/-0.010	.127	✓			
0.590	+/-0.010	.593	✓			
0.793	+/-0.010	.799	✓			
1.351	+/-0.010	1.348	✓			
1.317	+/-0.010	1.317	✓			
1.802	+/-0.010	1.810	✓			

Measured by: <i>[Signature]</i>	Audited by: <i>[Signature]</i>	Prototype Approval:	N/A
Date: 09/10/25	Date: 09/10/25	Date:	N/A

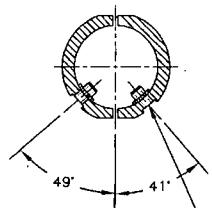
Rev	Date	Change	Revised by	Approved
A	06.03.31	New Issue	KJ/JLM	
B	08.09.19	Reformat P/O D3488-042	KJ/JLM	
C	08.12.02	Dimension 8.000 removed	KJ/JLM <i>[Signature]</i>	<i>[Signature]</i>

DART

DESIGN	DRAWN BY	DART AEROSPACE USA, INC.	
04	04	PORT HADLOCK, WA	
CHECKED	APPROVED	DRAWING NO.	REV. D
<i>[Signature]</i>	<i>[Signature]</i>	DSK 101	SHEET 1 OF 1
DATE	TITLE	SCALE	
06.05.09	D3488-1/-2 TURNING DETAIL	1:3	
A	05.12.21	NEW ISSUE	
B	06.03.02	ADD TOLERANCES AND RADIUS	
C	06.04.17	0.188 WAS 0.125	
D	06.05.09	REMOVE DIAMETER FOR CHAMFER	

**DSK 101**

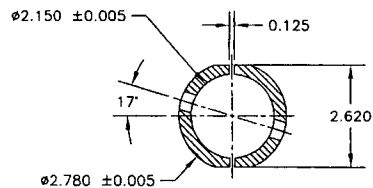
- 1) MATERIAL: MAKE FROM ALUMINUM 7075-T7351 ROUND BAR PER QQ-A-225/9 (REF. DART MATERIAL SPEC M7075T73R)
- 2) FINISH: NONE
- 3) BREAK UNMARKED SHARP EDGES 0.010 TO 0.020
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED



SECTION B-B

Ø0.297
C'BORE Ø0.430 x 0.100
INSTALL ALS4-1032-225 (OR AKS4-1032-225
OR ALS7-1032-225 OR AKS7-1032-225)
INSERTS AFTER FINISH
(4 PLACES)

4



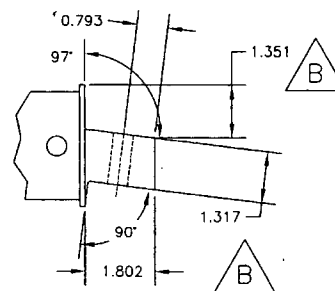
SECTION A-A

D3488-041/-042 BLADE FITTING ASSEMBLY PARTS LIST

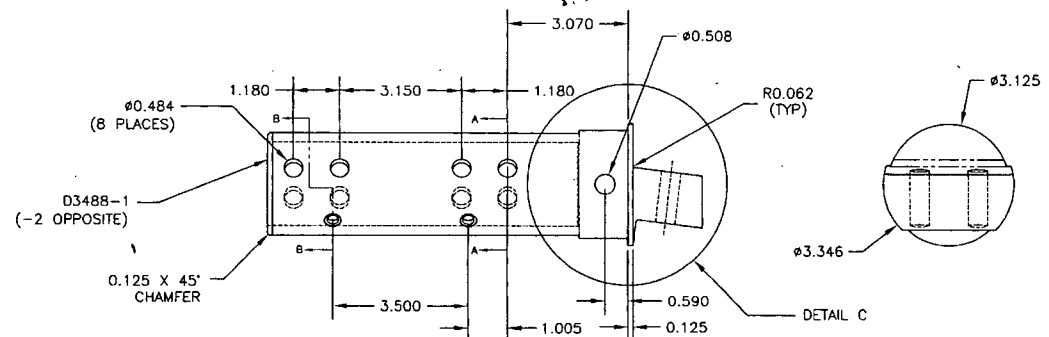
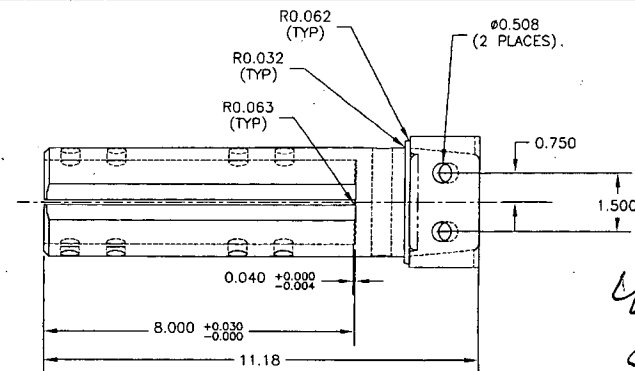
QTY -041	QTY -042	PART NUMBER	DESCRIPTION
X		D3488-041	BLADE FITTING ASSEMBLY (LH)
	X	D3488-042	BLADE FITTING ASSEMBLY (RH)
1		D3488-1	BLADE FITTING (LH)
	1	D3488-2	BLADE FITTING (RH)
4	4	ALS4-1032-225 or AKS4-1032-225 or ALS7-1032-225 or AKS7-1032-225	INSERT

D3488-041/-042 BLADE FITTING

- MATERIAL: MAKE D3488-1/-2 FROM ALUMINUM 7075-T7351 ROUND BAR PER QQ-A-225/9 (REF. DART MATERIAL SPEC M7075T73R)
- FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1 POWDER COAT WHITE (REF 4.3.5.1) PER DART QSI 005 4.3
- BREAK UNMARKED SHARP EDGES 0.010 TO 0.020
- INSTALL INSERTS AFTER POWDER COAT
- ALL DIMENSIONS ARE IN INCHES
- TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED



DETAIL C



D3488-041 SHOWN (D3488-042 OPPOSITE)

RELEASED
06.03.15
REV. B
EIN #734

B	06.03.15	CHANGE THICKNESS
A	05.12.20	NEW ISSUE
DESIGN	PH	DRAWN BY PH
CHECKED	#	APPROVED #
DATE	06.03.15	TITLE
		BLADE FITTING
		SCALE
		1:3

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DART DART AEROSPACE USA, INC.
PORT HADLOCK, WA

DRAWING NO. D3488

REV. B
SHEET 1 OF 1